

Outline of BASN Paper – Revision 0.3

- A. Introduction
 - a. Motivation
 - i. BASN Utility
 - ii. BASNs vs. WSNs
 - iii. New perspective is needed
 - b. Contribution
 - i. Definitions, Considerations, Opportunities, Challenges
- B. Background
 - a. Definition of BASN
 - b. Application/Platform Survey
 - i. Healthcare
 - ii. Performance
 - iii. Entertainment
 - iv. Table of Characteristics
 - c. Application Requirements
 - i. Operational Profile
 - 1. Transient Detection (Features)
 - 2. Longitudinal Observation (Trends)
 - 3. Vigilant Monitoring (Events)
 - ii. Table of Requirements
- C. BASN Function and Architectural Considerations
 - a. Node
 - i. Energy Source
 - 1. Battery
 - 2. Scavenging
 - ii. Sensing and Conversion
 - iii. Signal Processing
 - iv. Control and Actuation
 - v. Communication
 - 1. Modes of Communication
 - b. Network
 - i. Functional Hierarchy
 - 1. Resource Asymmetry
 - ii. Topology
 - iii. Coordination
 - c. System
 - i. Infrastructure
 - 1. Storage, Processing, Presentation
- D. BASN Challenges and Opportunities
 - a. Scalability (Fidelity-Energy)
 - i. Low-Power Operation
 - 1. Circuit-Level Opportunities
 - 2. Node-Level Opportunities
 - 3. System-Level Opportunities
 - a. Signal Processing

- ii. Fidelity Scalability
 - 1. Approximate Signal Processing
 - b. Security and Privacy
 - c. Reliability and Criticality
 - d. Packaging
- E. Conclusion
 - a. Summary
 - b. Future Work